THE RESULTS OF TEST EXCAVATIONS IN THREE ROCKSHELTERS IN SOUTHWEST QUEENSLAND

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In order to document the archaeology of southwest Queensland and to establish a chronology of Aboriginal occupation, test excavations were undertaken in three rockshelters to determine their suitability for further investigation and, if possible, to date the age of the deposits. All proved to have shallow deposits and the cultural component of each was sparse. The deposits from two were dated to the late Holocene. While occupation deposits from these types of sites can provide chronological evidence, it is likely to be limited to the late Holocene. Investigation of other types of sites, such as open sites or features associated with relict sediments, will be required to provide a chronology of Aboriginal occupation in southwest Queensland.

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Despite considerable knowledge gains over the last three decades, much of Australia remains archaeologically unknown. White and O'Connell (1982:3) observed that Sahul prehistory '... is based on appallingly small samples...' Not only are the samples small, they are also very biased in their distribution. While some areas of Australia have been subjected to considerable amounts of archaeological investigation which has enabled, amongst other things, the establishment of basic regional chronologies of Aboriginal occupation, other areas have received little or no attention. Southwest Queensland, where only one unpublished date has been obtained from a salvage excavation (P. Hiscock, pers. comm.) and only one brief report of a test excavation published (Hughes & Lampert, 1980), falls into the latter category. This paper builds on this small data base by presenting the results of test excavations undertaken in 1984 in three rockshelters in southwest Queensland. The work was undertaken as part of a larger baseline study designed to explore a range of aspects, including the dating of sites, relating to the archaeology of southwest Queensland (Robins, 1993).

A BRIEF HISTORY OF ARCHAEOLOGICAL WORK UNDERTAKEN IN SOUTHWEST QUEENSLAND

The early archaeological record for southwest Queensland is one characterised by infrequent articles, some in popular magazines and the occasional report in professional journals. Reports in the former category include that of Lewis's account of artefacts and campsites on the Cuttaburra and Kulkyne Creeks (Lewis, 1966); those from the latter include those of Riddell (1928), who described a stone arrangement on Durham Downs, and Elkin (1949), who described the rock engravings on Nappermerrie Station and recounted their associated mythology.

In the late 1960's and early 1970's, Federal and State government-sponsored site recording programmes resulted in the recording of a number of sites throughout the southwest, the aims being to compile an inventory of sites and site types. A largely descriptive, non-theoretical approach was adopted. From these recordings, information about the nature and distribution of stone arrangements (Rowlands & Rowlands, 1976, 1978) and the style and content of rock engraving sites (Robins, 1977) was expanded. New site types were recorded, including burials, burial platforms, stone cairns, rockshelters with occupation deposits, scarred trees (as the result of obtaining wood for boomerangs and bark for canoes), possum trees, stone quarries, extensive artefact scatters, axe grinding grooves, clay and stone hearths and huts frames (Heritage Branch files, Queensland Department of Environment and Heritage; Robins, 1981; McKellar, 1984).

Oil and gas exploration in the Eromanga basin in the late 1970's, brought with it the need for Impact Assessments. This work, largely confined to the area around the Jackson oilfield between the Wilson River and Cooper Creek, resulted in a number of surveys being undertaken (e.g. Lance & Hughes, 1983; Lilley, 1983; Richardson, 1983; Hiscock, 1984a; Alfredson, 1987; Lance, 1990, 1992). In the course of these surveys large numbers of stone artefact scatters were recorded, and

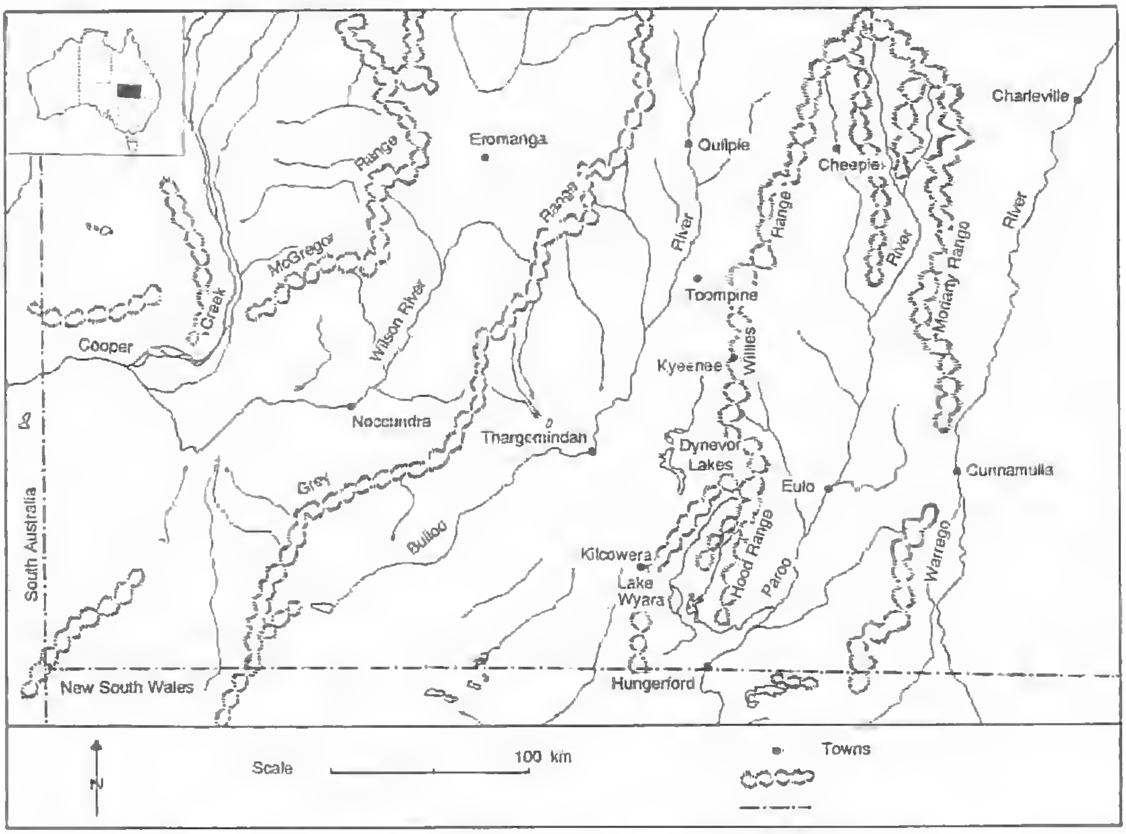


FIG. 1. Topographic map of southwest Queensland showing the location of Kilcowera and Kyeenee Stations (after Dawson, 1974).

in some cases quarries, scarred trees and burials were also identified. Lance (1990) comments that most of these surveys were descriptive in nature, limited in scope and intensity, and were designed to identify sites to be avoided. The exception was a predictive base line study of the Naccowlah Block (Hiscock, 1985), in the vicinity of Cooper Creek and the Wilson River, where variations in the frequency and nature of sites were shown to depend on distances from water sources, raw material sources and proximity to land system boundaries.

Only two archaeological excavations have been undertaken in southwest Queensland. The first was by Hughes & Lampert (1980), who sank a 1 x 1m test pit into the clayey core of a dune near Nappermerrie Station, on Cooper Creek. No artefacts were recovered from the core, although numerous artefacts were observed in a lag at the surface of the dune flanks. These artefacts were presumed to be Holocene in age, most of them younger than 5,000 years. Other artefacts were observed embedded in indurated sand above the clay cores of dunes. From their geomorphic context, Hughes & Lampert deduced that they were late Pleistocene or early Holocene in age.

The second was a rescue excavation undertaken in 1983 where an oil pipeline intersected the lunette on the eastern side of Lake Toomaroo, on the Dynevor Lake system just east of Thargomindah. The excavator, Peter Hiscock, undertook the collection of part of a surface scatter of artefacts and carried out some test excavations. In one of the squares a date of 174±50yBP (Beta 7640) was obtained from charcoal at a depth of about 20cm (P. Hiscock, pers. comm.).

This brief summary illustrates the poverty of archaeological information, particularly that relating to the temporal evidence of Aboriginal occupation, in southwest Queensland.

The situation in adjacent areas of New South Wales and South Australia is not greatly different. In northwestern New South Wales the most detailed work has been undertaken by Witter (1992), although some basic site recording work had been done previously (e.g. Stockton, 1977;

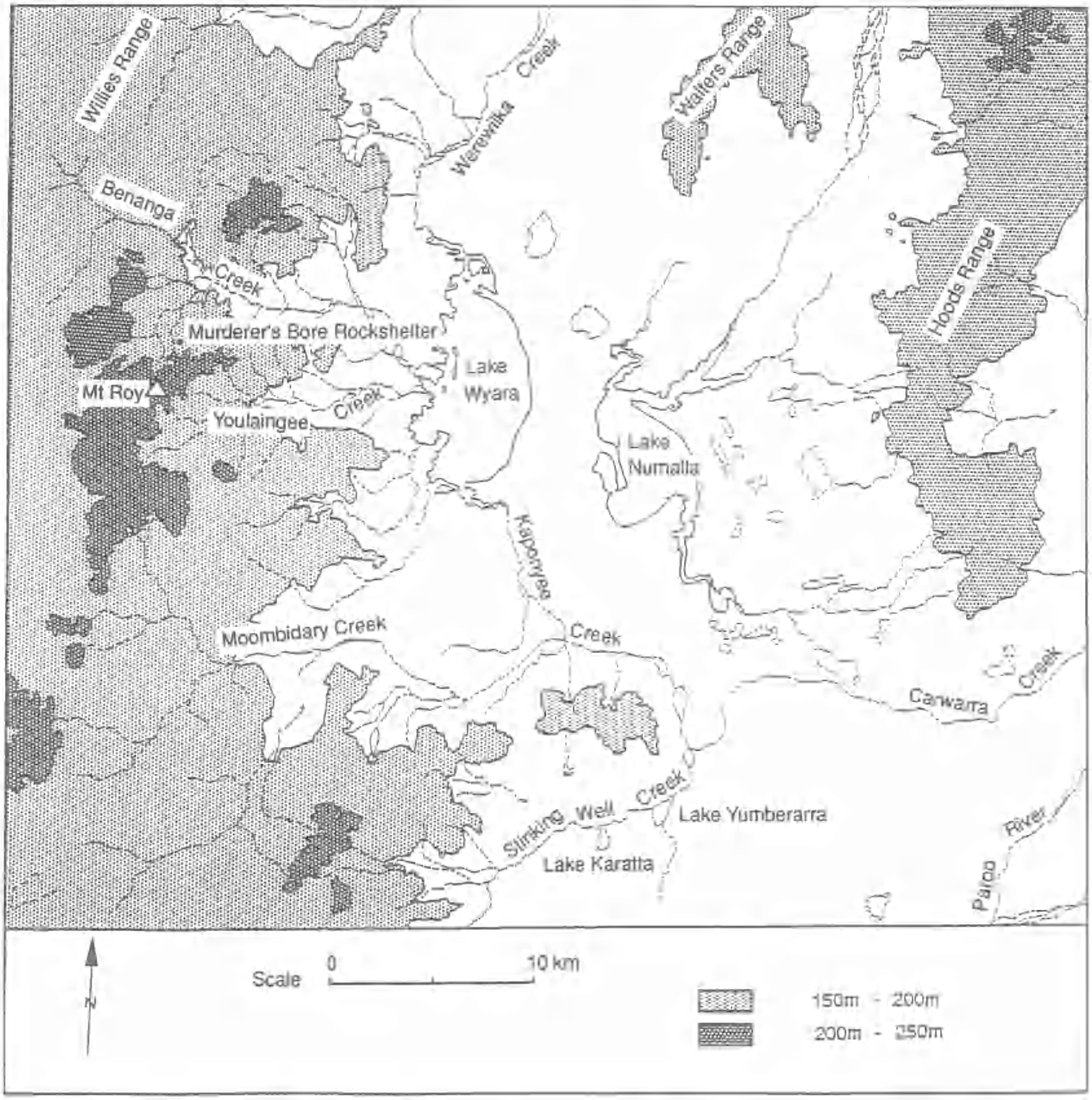


FIG. 2. Map showing the location of Murderers Bore rockshelter.

Rowlands & Rowlands, 1976, 1978). Witter (1992) undertook a survey in the Tibooburra area as part of a larger project designed to characterise stone artefact industries in three areas of New South Wales. During the survey, he recorded large numbers of artefacts differentially spread across the landscape. Although no excavation or dating was done, Witter assumed that the evidence is all mid-to-late Holocene in age on the basis of its general character and content, including the presence of artefact types that have elsewhere been dated to that time period.

Archaeological investigations along the Lower Cooper Creek in South Australia have determined that human occupation of that area extend back at least 12000yBP (Veth & Ham, 1989; Veth et al., 1990). A survey along the riverine corridor coupled with transects across the adjacent desert resulted in the recording of 204 archaeological sites. Distinct differences in site densities and assemblage structure between the eastern and western sections of the Lower Cooper Creek were interprated as the product of differing Holocene settlement and subsistence strategies. The exca-

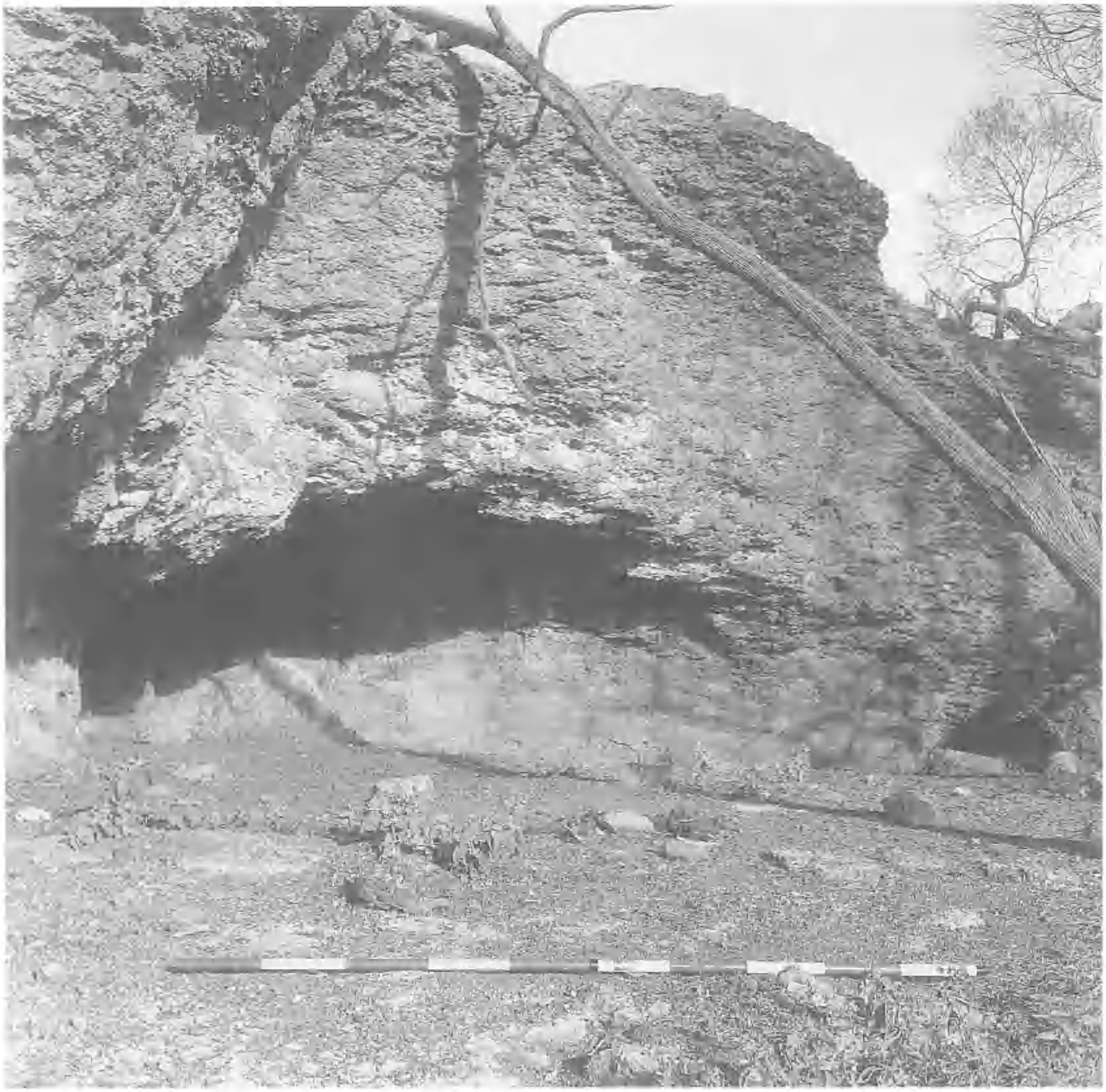


FIG. 3. Murderers Bore rockshelter.

vation of hearths buried within calcrete dune cores provided evidence of late Pleistocene (c. 12000yBP) occupation.

Survey work to the north around the Coongie Lakes by Williams (1988) recorded extensive mussel shell middens, termite mound heat retainers and stone artefacts. These sites were interpreted as late Holocene in age and reflect habitation near permanent or semi-permanent water. Excavations to the south of Cooper Creek, in the Strzelecki Desert, revealed evidence of late Pleistocene habitation. At the JSN site, charcoal from hearths (Smith et al., 1991) produced dates ranging from about 14000yBP to about 2500yBP.

In summary, archaeological investigations in southwest Queensland over the last seventy years have resulted in a number of types of sites being recorded. However, it has really only been in the last two decades, and with the advent of oil exploration, that attempts at comprehensive archaeological recording have been carried out. This work has largely been descriptive in nature, and a temporal framework for the evidence is still lacking, although indications from nearby areas would suggest a history of occupation of consid-

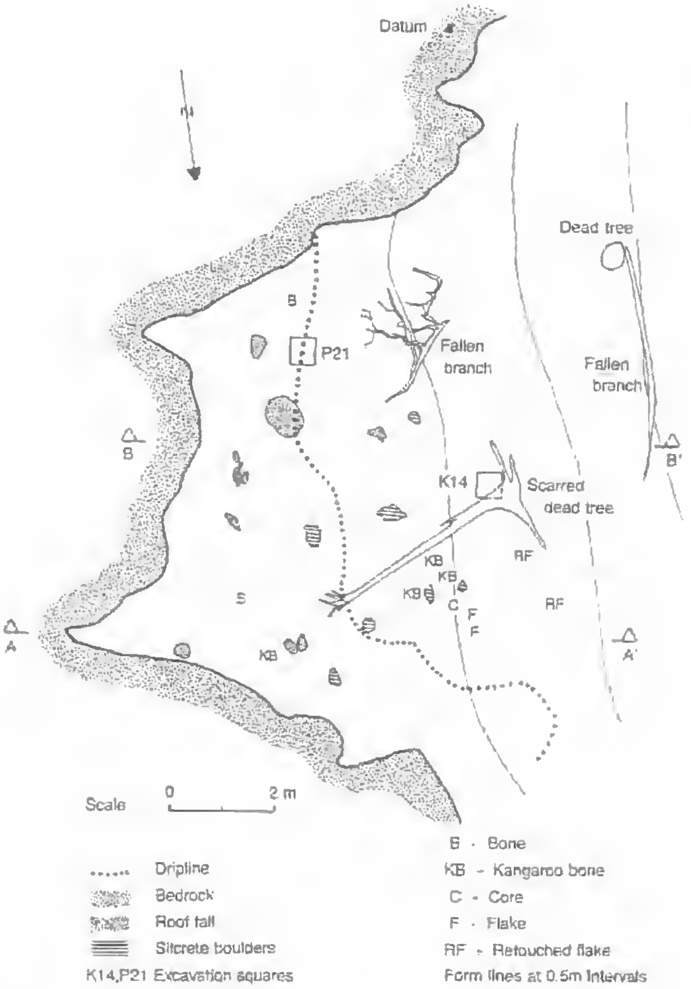


FIG. 4. Plan of Murderers Bore rockshelter.

erable antiquity. Important issues now for southwest Queensland archaeology are to obtain a chronology of occupation and to identify ways such a chronology might be obtained.

Elsewhere in Australia, archaeologists have traditionally focused on rock shelters and caves to obtain temporal information on human occupation. In southwest Queensland, numerous rockshelters occur in the sediments of the Winton Formation where they are exposed as dissected residuals, mesas and buttes. Most, however, occur in rugged terrain well away from permanent or semi-permanent sources of water, and most appear to contain only shallow and disturbed deposits which are likely to prove a poor source of archaeological information, particularly chronological information.

These assumptions, however, need to be addressed. Size or depth of rockshelters are not necessarily a good indicator of archaeological potential. A characteristic of Australian rockshelters is that old, or in other ways significant sites, do not have to be large or deep. A number of sites with deposits of about a metre in depth, such as Colless Creek (Hiscock, 1984b, 1990), Maidenwell (Morwood, 1986), Platypus Rockshelter (Hall et al., 1988), Bushrangers Cave (Hall, 1986), Fern Cave (David, 1991), and Birragai (Flood et al., 1987) have all provided dates that have made important contributions to archaeological knowledge at both a regional and continental level. Some test excavations of rockshelters in southwest Queensland were therefore necessary to establish the validity of the assumption concerning their archaeological potential. If the assumption was upheld, alternative approaches for obtaining chronological sequences in this area must be sought.

SITES

Three rockshelters were selected for investigation. The first, informally named Murderers Bore 1, is located on Kilcowera Station, which is located between the Paroo and Bulloo Rivers, approximately 60km NW of the Queensland/New South Wales border town of Hungerford (Fig. 1). The rockshelter is located on the eastern side of the Willies Range, in the headwaters of Benanga Creek, which flows into Lake Wyara (Fig. 2). It was excavated during the 1984 field season as part of a preliminary survey of that area (Robins, 1993).

The remaining two rockshelters are located on Kyeenee Station. Kyeenee Station lies approximately 70km NW of Eulo and 80km NW of Thargomindah, midway between the Paroo and Bullo Rivers (Fig. 1). It lies on a divide between Yowah Creek, which flows into the Paroo River 60km to the SE, and the tributaries of Bundilla Creek which flows into the Dynevor Lake system, 40km to the SW. One of these was a relatively large rockshelter recorded by the author in

TABLE 1. Summary of frequency, size and mass of artefacts types in excavations P21 and K14. Abbreviations: XU=Excavation Unit; ML=Mean length; MW = Mean width; MM = Mean mass.

XU	Artefact Type	No.	ML (mm)	MW (mm)	MT (mm)	M M (g)
P21/1	Flakes	2	30.1	27.7	7.9	12.5
P21/2	Flakes	3	10.6	11.4	2.9	0.3
K14/1	No artefacts					
K14/2	Flakes	9	11.2	10.3	3.2	0.8
	Flaked piece	4	8.4	4.2	2.2	0.4
K14/3	Tula	1	12.5	34.0	11.9	7.3
	Flake	1	9.0	12.0	1.4	0.2
	Flaked piece	1	4.1	7.3	1.7	0.1
K14/4	Flake	1	7.9	16.0	4.2	0.5

1977 (Queensland Deparment of Environment and Heritage Branch Site number EB:A16); the other was a smaller shelter. These rockshelters were informally Kyeenee rockshelters I and II respectively.

MURDERERS BORE ROCKSHELTER

Murderers Bore rockshelter is located on the northwestern side of a finger of dissected residual that marks the boundary of the headwaters of the tributaries that flow into Benanga Creek. It is located 2.5km S of Murderers Bore, and 4km SW of Benanga Creek at its nearest point. Lake Wyara lies 13km to the east (Fig. 2). The closest point of the Paroo River is 40km to the southeast. The decision to excavate this site was based on the fact that of all the rockshelters in the study area it was the largest and appeared to have the deepest deposit. There were also obvious signs of human occupation in the form of stone artefacts on the floor, and a dead acacia tree at the entrance from which a section of wood had been removed.

The rockshelter is in a scarp retreat of a tableland and has a northwesterly aspect. The scarp consists of a thin capping of Glendower Formation silcrete covering the softer sandstones, siltstones and mudstones of the Winton formation (Fig. 3). The rockshelter has formed through the action of cavernous weathering on the softer sediments of the Winton Formation. The scarp retreat itself is highly eroded and is no more than 5m high in the vicinity of the rockshelter. The scarp abuts a talus slope with shallow red earths and silcrete, mudstone and siltstone boulders and gravel. The surrounding vegetation is predominantly bastard mulga (*Acacia clivicola*) and mulga (*Acacia aneura*) low open shrubland with forbs and short grasses (Dawson, 1974). Waterholes in Benanga Creek would provide the nearest source of semi-permanent water. Youlain Springs, 7km to the southeast, would probably have been the nearest source of permanent water.

The rockshelter itself is small and has an irregular shape. Its mouth is approximately 10m long and 4m deep at its deepest point (Fig. 4). Maximum ceiling height is 3m (Fig. 5). Much of the surface of the deposit appeared scuffed by cattle, rock wallabies and kangaroos. The desiccated carcass of a kangaroo lay beneath a mulga tree at the entrance to the shelter. Bedrock was outcropping throughout much of the floor and boulders of roof spall and silcrete lay on the floor.

EXCAVATION PROCEDURE

After driving a nail into the bedrock to the north of the shelter to act as a datum, a baseline and an alpha-numeric 50cm horizontal grid was established for the site. The site was then mapped using 90° offsets from the baseline. Heights were determined with an autoset level. Two 50cm squares (K14 and P21) thought to have the greatest depth and the least amount of disturbance were selected for excavation. P21 was selected because it was the highest point in the deposit. K14 was selected in the hope that sediments eroding downslope

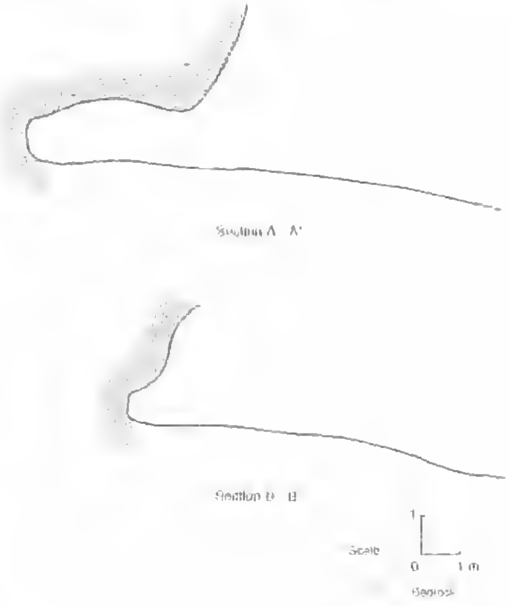


FIG. 5. Topographic profiles across Murderers Bore rockshelter.

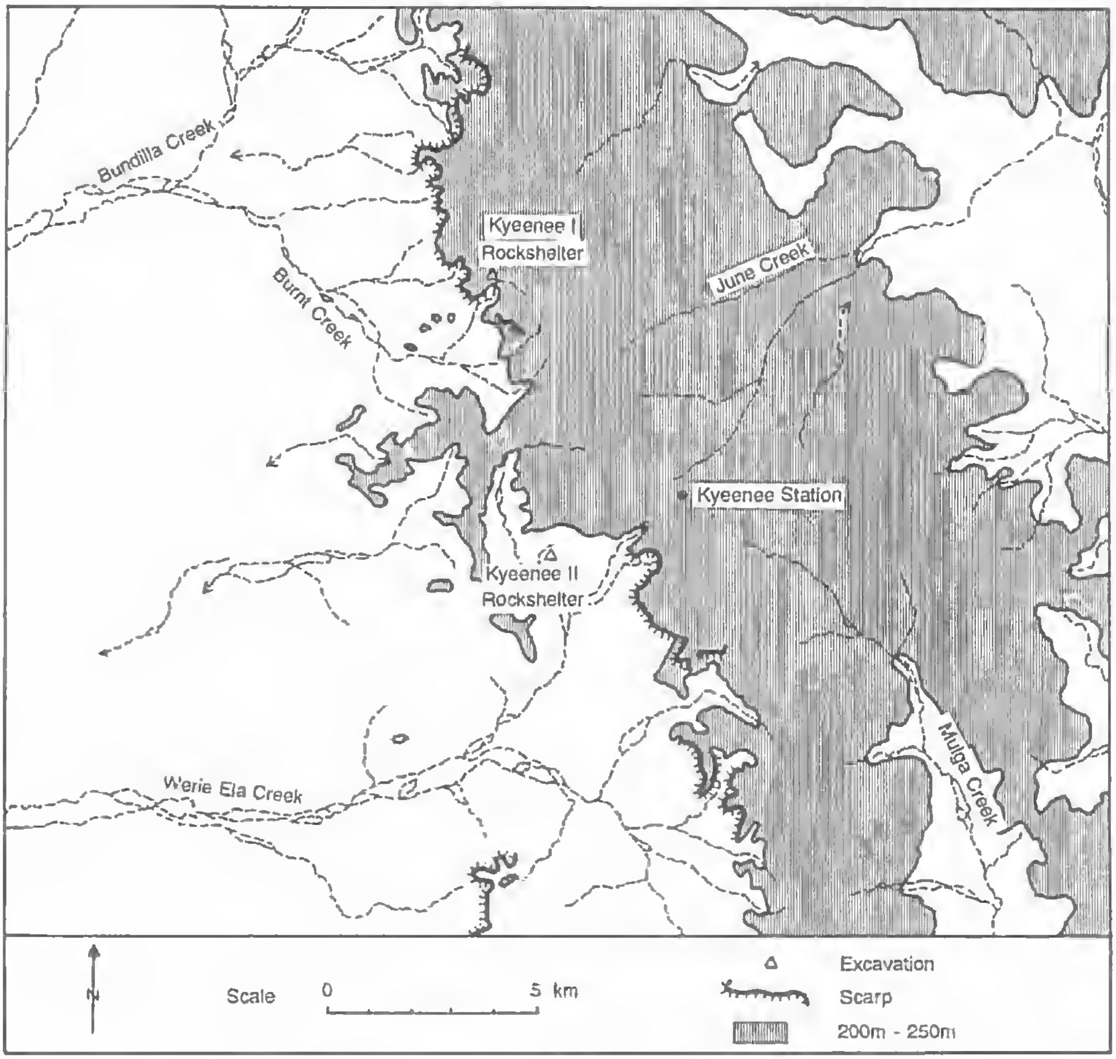


FIG. 6. Location of Kyeenee I and Kyeenee II rockshelters.

would be trapped by the roots of the *Acacia* at the entrance. Excavation followed the procedures and proforma outlined by Johnson (1979:145-165). Excavated material was sieved through 2mm and 4mm wire mesh. Soil colours were obtained using a Munsell Soil Colour Chart (Munsell Colour Co, 1990).

All the material held in the sieves was retained for laboratory sorting. For each excavation unit (XU), a grab sample (approximately 100g) of the material that had passed through both sieves was also retained for further analysis.

A 10 x 10m square extending from the baseline down the talus slope was laid out. In addition to basic environment data, the minimum and average artefact densities, raw material types, artefact types, the minimum and maximum size of flakes, cores and grindstones morphologies were recorded (Robins 1993: 364-368; glossary).

DEPOSIT DESCRIPTION

P21 was excavated in two XUS. It contained 21.75kg of deposit and had a depth of 6cm. The top 1-2cm was a dry, coarse reddish-yellow (Munsell (7.5YR 6/6)) sandy deposit with some

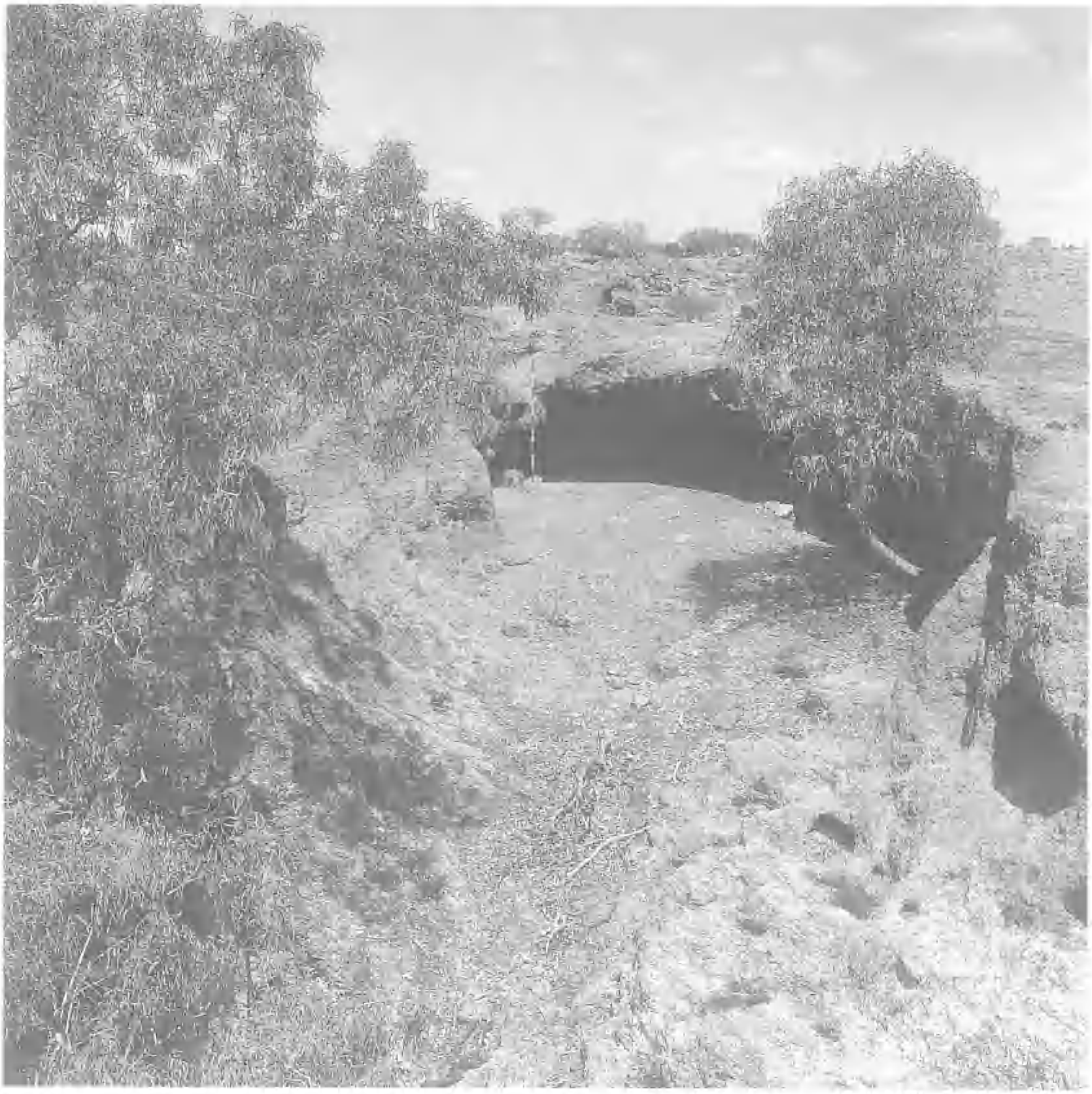


FIG. 7. Kyeenee I rockshelter.

gravel and well rounded pebbles. Beneath this surface layer is a dry, compact, strongly brown layer (7.5YR 5/6) with increasing amounts of decaying bedrock to the base. The deposit has been disturbed by a tree root growing through it. Small amounts of charcoal occurred throughout.

K14 was excavated in five XUs. It contained 41.75kg of deposit and had a maximum depth of 40cm. The top 1-2cm is similar in texture to that encountered in P21; a dry, coarse, sand with gravel and cobbles, presumably derived from the sandstone bedrock. Beneath this surface layer the deposit is finer and more friable, but contains the same amount of coarse material. The colour of the deposit, reddish brown (5YR 4/4), remains the same throughout. In parts of the square, bedrock was encountered within 2cm of the surface while in other parts of the square the deposit was up to 40cm in depth, indicating a very uneven bedrock base. The deposit contains tree roots and wood, leaves and small amounts of charcoal. A radiocarbon date of 450±70yBP (Beta 11593) was obtained from charcoal in the basal unit.

LABORATORY PROCEDURE

The retained sieve fractions were sorted for cultural material, bone, charcoal and organic material. Munsell Soil Colours were taken on the

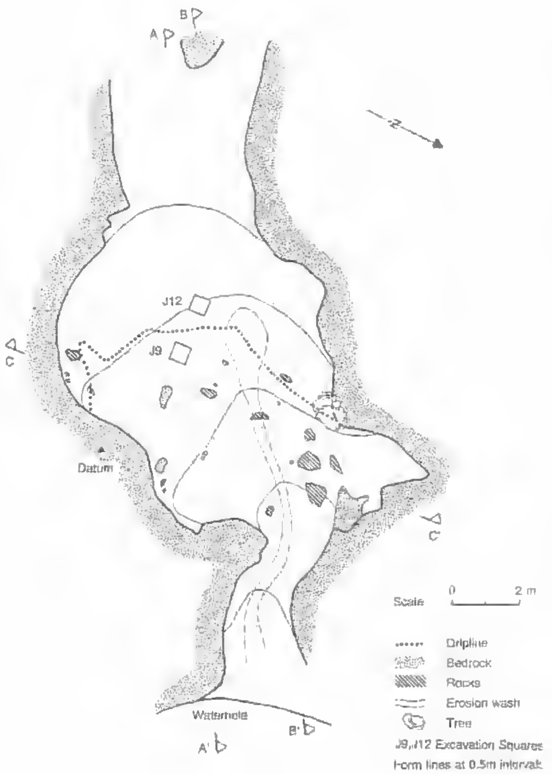


FIG. 8. Plan of Kyeenee I rockshelter.

air-dried fine fraction. All the sorted 2mm and 4mm sieved material was retained, bagged separately and registered Queensland Museum QMS829.

All identified artefacts were weighed and measured for length, width and thickness. Attempts were made to identify retrieved bone to species or genera level and the bone was examined for evidence of burning.

CULTURAL MATERIAL

Twenty five stone artefacts were recovered from both pits; 5 from P21 and 20 from K14. All the artefacts recovered from P21 were flakes while K14 contained 14 flakes, 5 flaked pieces and 1 tula (Table 1). Sixty five percent of the artefacts recovered from K14 were from XU 2.

The small number of artefacts from these pits restricts detailed analysis. All the artefacts recorded are silcrete. Flake lengths range from 3-49mm. In general, there is not much difference between average flake length and width in either pit (Table 1). In K14 mean length was 9.4mm and the mean width 11.2mm. In P21 mean length was 18.4mm and mean width 17.9mm.

Two small fragments of unidentifiable mammal bone were found in XU 1 of K14 which could be the result of natural death or introduction by humans into the site.

A dead tree (probably *Acacia aneura*) at the front of the shelter retained a scar where a section of wood had been removed from the trunk. This scar was 850mm long and 250mm wide at its widest point.

ASSOCIATED ARCHAEOLOGICAL EVIDENCE

In the 10m square laid out from the baseline down the talus slope, 166 artefacts were recorded from the surface, including 141 flakes, 14 retouched flakes, 6 cores, 2 multi-platform cores, 2 tula slugs and 1 tula. Maximum flake length was 70mm and minimum 1mm. Maximum length of cores was 220mm and minimum 30mm. Sixty percent of flakes were between 60-100mm long. Fifty percent of cores were less than 100mm long

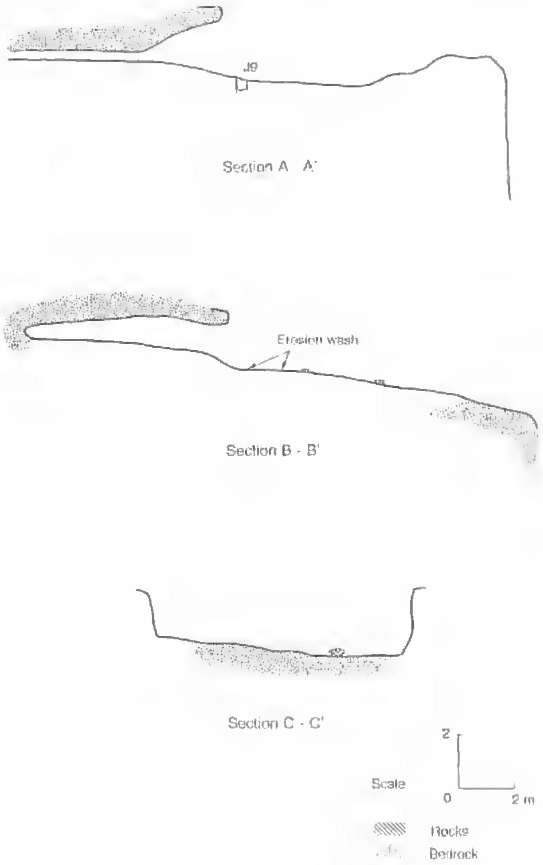
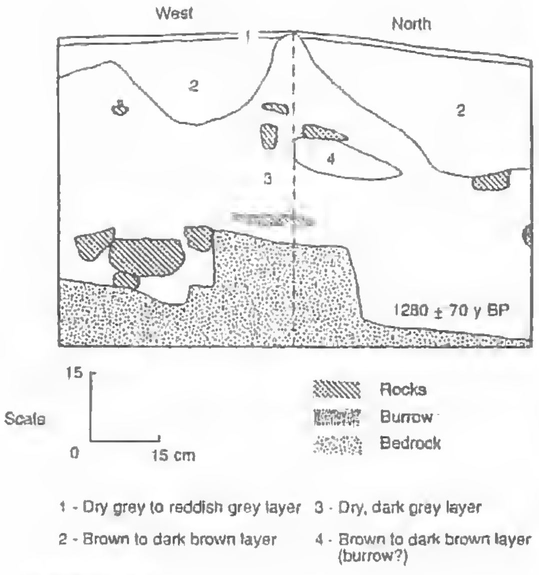
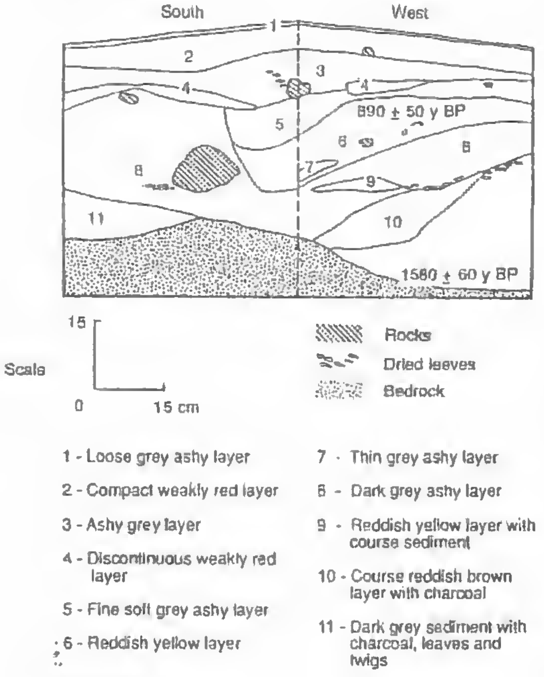


FIG. 9. Topographic profiles across Kyeenee I rockshelter.


West
North
1
2
2
3
4
1280 ± 70 y BP
15
Scale
0
15 cm
Rocks
Burrow
Bedrock
1 - Dry grey to reddish grey layer
2 - Brown to dark brown layer
3 - Dry, dark grey layer
4 - Brown to dark brown layer (burrow?)

Excavation pit J9


South
West
1
2
3
4
4
5
6
6
7
8
8
9
10
11
890 ± 50 y BP
1580 ± 60 y BP
15
Scale
0
15 cm
Rocks
Dried leaves
Bedrock
1 - Loose grey ashy layer
2 - Compact weakly red layer
3 - Ashy grey layer
4 - Discontinuous weakly red layer
5 - Fine soft grey ashy layer
6 - Reddish yellow layer
7 - Thin grey ashy layer
8 - Dark grey ashy layer
9 - Reddish yellow layer with course sediment
10 - Course reddish brown layer with charcoal
11 - Dark grey sediment with charcoal, leaves and twigs

Excavation pit J12

FIG. 10. Cross-sections of two faces in excavations J9 and J12, Kyeenee I rockshelter.

TABLE 2. Carbon content, colour and soil reaction for selected in excavation J12, Kyeenee I rockshelter. Abbreviations: XU=Excavation unit SR= Soil Reaction

XU	% Carbon (Av.)	Munsell Colours		SR (pH)
		Wet	Dry	
J12/1	18.5	7.5 YR 3/2 dark brown	7.5 YR 3/4 dark brown	6.4
J12/7	16.5	7.5 YR 3/2 dark brown	7.5 YR 4/2 brown to dark	6.4
J12/13	12.0	7.5 YR 3/2 dark brown	7.5 YR 4/3 dark brown	4.4

while 30% were between 160mm-300mm long. This figures illustrate the relatively small nature of the artefacts. It is probable that the cores were obtained from the locally available silcrete in gibber form.

Distribution of artefacts across the surface was patchy with artefact densities ranging from between 0-15/m². Mean artefact density was between 1 and 5/m². No knapping floors were observed.

SUMMARY

This rockshelter contained a shallow cultural deposit of recent age. There was evidence of disturbance and it is possible that much of the deposit had been moved downslope from the shelter. The shelter had a low density of cultural material in the form of stone artefacts. Charcoal, faunal and floral remains were also found in the deposit but their presence may be attributed to either human or non-human causes. The small number and limited range of types represented by the artefacts both in the deposit and on the slope reinforce that the impression that site use was infrequent and involved a limited number of activities.

KYEENEE I ROCKSHELTER

Kyeenee I rockshelter is located in an escarpment at the headwaters of Burnt Creek, 6.5km northwest of Kyeenee homestead. Burnt Creek flows into Bundilla Creek 7km to the northwest (Fig. 6). The rockshelter has formed at the head of a steep-sided gully system fingering into a scarp of Winton Formation dissected residuals. The surface of the plateau has very shallow reddish brown to red, acid, loamy lithosols mixed with boulders and gibber of silcrete and the Winton Formation deposits. The vegetation consists of areas of rockgrass (*Eriachne mucronata*),

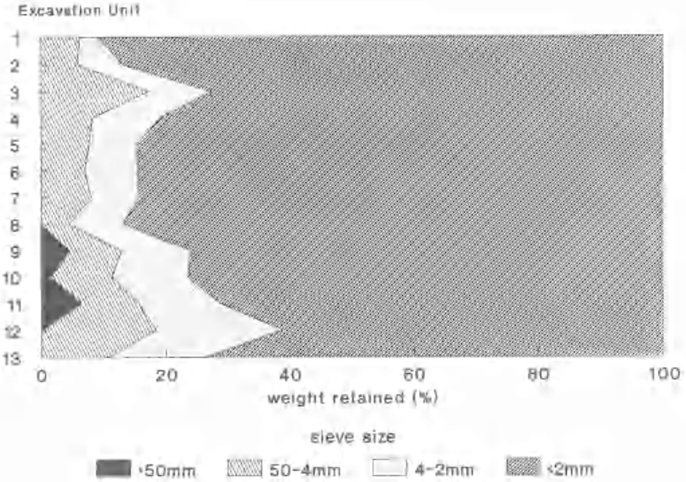


FIG. 11. Gross texture of XU sieved in the field, excavation J12, Kyeenee I rockshelter.

mulga (*Acacia aneura*), western bloodwood (*Eucalyptus terminalis*) open tussock grassland, and mulga, lancewood (*Acacia petraea*), bastard mulga (*Acacia clivicola*) tall open shrubland (Dawson, 1974). Within the gully system, large river red gum trees (*Eucalyptus camaldulensis*) grow. Semi-permanent water can be found in a series of waterholes along the gully floor. The rockshelter is located at the head of a small, sloping bench which is above, and to the southern side of, the termination of the main gully system (Fig.7). It has a north-easterly aspect. The escarpment plateau is within 1-1.5m of the rockshelter vault. Bedrock walls extend out from the rockshelter to box in the bench on its western and eastern sides to a maximum 6m width. A dropoff to a small semi-permanent waterhole restricts its length from the rockshelter overhang, to 10m (Figs 8,9).

The entrance to the rockshelter is approximately 8m wide and 2m high. Eight metres in from the entrance the rockshelter divides into two chambers that both extend back approximately 4m, giving a total depth of 12m. Within 4m of the entrance the rockshelter height is about 1m (Fig. 9).

A shallow depression in the bedrock above the shelter collects surface water and directs it over the lip of the shelter, onto the bench and then into the rock pool below. This runoff has resulted in erosion and compaction of parts of the deposit on the bench (Fig. 8).

The shelter is host to a colony of bats and the surface of the deposit is covered with bat dung. The desiccated carcasses of two wallabies, sheep fleece and some bones of a sheep were also in the shelter. Wallaby and kangaroo dung was also evident in the deposit. Parts of the surface of the deposit, particularly towards the rear, appeared to have been extensively scuffed by animals. Charcoal and two artefacts were noted in the deposit prior to excavation.

EXCAVATION PROCEDURES

A nail hammered into the southern bedrock wall was used to define datum. A levelled baseline was then run at 355° across the bench. From this line a series of 90° offsets were run to various points in the site to outline its shape and to define an alpha-numeric grid. An autoset level was used to obtain heights at various points on the bench. Where use of the level proved difficult, particularly in the cave, a water level substituted. Two profiles were run the length of the shelter and bench.

TABLE 3. Faunal remains in excavation J12, Kyeenee I Rockshelter. Abbreviation: XU=Excavation Unit

XU	Mass (g)	Identification
J12/3	0.89	Unidentifiable
J12/4	0.47	Snake vertebrae (python) Mammal vertebrae (rat size) Petrogale occipital (Possum)
J12/5	0.76	Rodent dentary fragment Small Rodent size fragment Snake cranial fragment Fragment, small rat size vertebrae
J12/6	8.49	Snake vertebrae, rodent incisor, size scapula fragment, macropod scapula (*M. rufus* size)
J12/8	5.25	Rodent incisor, rodent maxillary fragment, possum size humeral fragment, macropod dentary fragment (*M. rufus* size), unidentifiable fragment
J12/9	0.98	Maxillary fragment (large macropod), snake vertebral fragment, small bird vertebral fragment
J12/1	10.29	Rodent incisor, dentary fragment of *Perameles* sp. (bandicoot), mammal fragments Dentary fragment
J12/1	20.1	Unidentifiable

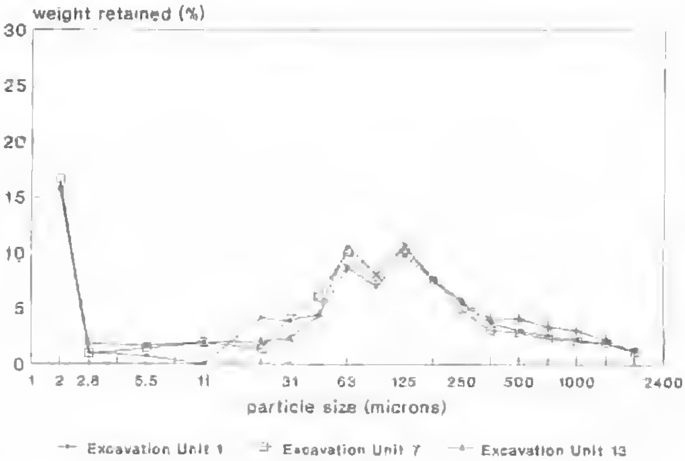


FIG. 12. Particle-size distribution in the <2mm field sieved fractions from XU 1, 7 and 13, excavation J12, Kyeenee I rockshelter.

One 50cm square, J12, was laid out just inside the mouth of the rockshelter and another, J9, was laid just outside the dripline. The squares were positioned in areas thought to have a combination of the greatest depth of deposit with the least amount of disturbance. The squares were then excavated following the procedures outlined by Johnson (1979:145-165). The excavated material was sieved through 2mm and 4mm wire mesh and weighed using a spring balance. All the material held in the sieves was retained for laboratory sorting. A grab sample of approximately 100g of the <2mm residue was retained from each excavation unit for further analysis.

LABORATORY PROCEDURES

The 4mm sieved fraction was sorted into its constituent parts: stone, stone artefacts, charcoal, bone and organic material. The 2mm sieve fraction was wet sieved before sorting into the same categories. After analysis, the sorted material was bagged according to category, and registered into the collections of the Queensland Museum under the registration number QMS828.

All identified artefacts were weighed and measurements of length, width and thickness taken. Recovered bone was sorted into individual fragments and identified to family or genus where possible. Organic fragments were sorted and attempts to identify individual fragments to genus or species were made.

Soil analysis of the fine fraction was undertaken on selected Excavation Units (J9/1/8/16 and J12/1/7/13). This included particle-size analysis, organic carbon content, wet and dry Munsell soil colours and soil reaction (pH).

DEPOSIT DESCRIPTION

The character of the deposit inside the shelter is different to that outside the shelter. The deposit inside the shelter exhibited a light, dry, complex character while the deposit outside the shelter is more compact and homogeneous.

J12 PROFILE DESCRIPTION

J12 contained deposit to a depth of 55cm. Eleven stratigraphic units (SU) were identified in the southern and eastern profiles of the test pit (Fig.10).

SU 1 is a thin, even surface layer approximately 2cm thick. It is a grey (5Y 6/1), loose, disturbed deposit with a large amount of bat and macropod dung mixed with some roof spall.

SU 2 is a weak red (10YR 5/3) layer between 5cm and 8cm thick. It contains kangaroo and bat dung, leaves and twigs and charcoal. This is a more compact, less disturbed layer than SU 1.

SU 3 is an uneven, grey (5YR 6/1), ash rich layer varying in thickness between 2cm and 10cm. This layer still contains bat dung, leaves

TABLE 4. Organic Remains recovered from excavation J12, Kyeenee I Rockshelter. Abbreviation: XU=Excavation Unit

XU	Mass (g)	Identification
J12/4	28.5	*Eucalyptus* sp. (leaves, fruit) *Acacia* sp. (phyllodes)
J12/5	24.9	*Eucalyptus* sp. (leaves) *Acacia* sp. (phyllodes)
J12/6	21.8	*Eucalyptus* sp. (leaves) *Acacia* sp. (phyllodes) *Abutilon* sp. (fruit)
J12/7	15.6	*Eucalyptus* sp. (leaves, fruit) *Acacia* sp. (leaves)
J12/8	3.9	*Eucalyptus* sp. (fruit) *Acacia* sp. (phyllodes)
J12/9	9.6	*Eucalyptus* sp. (leaves) *Acacia* sp. (phyllodes)
J12/10	12.4	*Eucalyptus* sp. (leaves) *Acacia* sp. (phyllodes)
J12/11	4.5	*Eucalyptus* sp. possibly *tessellaris* (leaves) *Acacia* sp. (phyllodes)
J12/13	.8	*Eucalyptus* sp. (leaves) *Acacia* sp. (phyllodes)

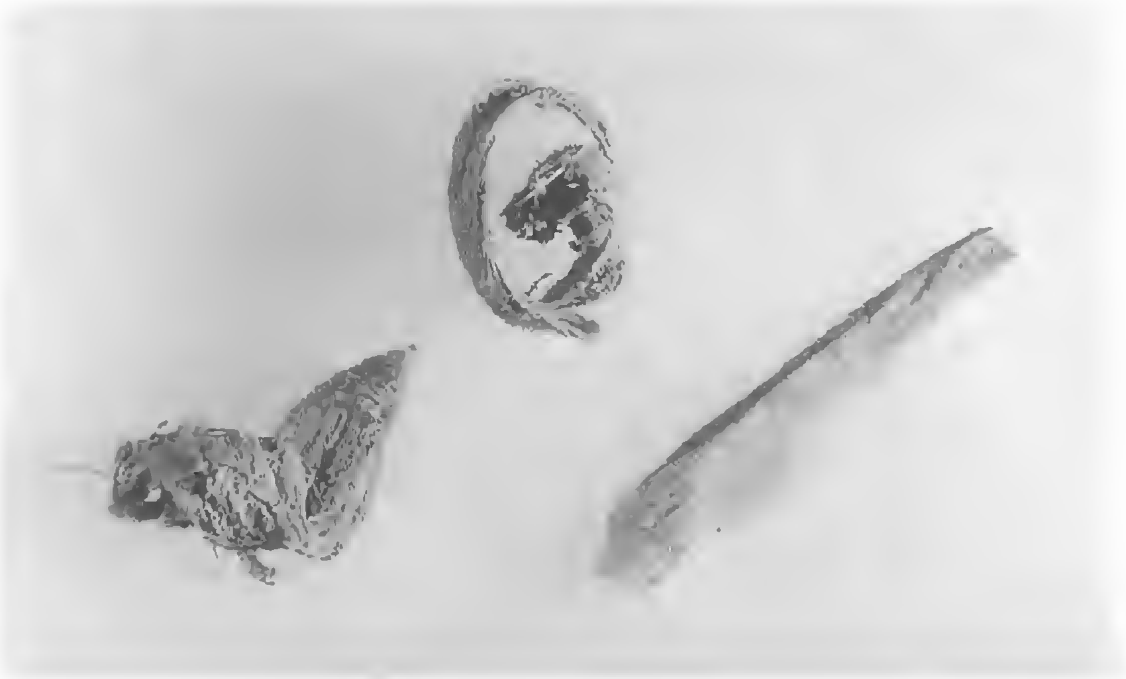


FIG. 13. Wood shavings, XU 5, J12.

and twigs but increasing amounts of both charcoal and roof spall were noted.

SU 4 is a thin, discontinuous, finely textured weakly red (10YR 5/4) deposit overlying SU 5 and 8.

SU 5 is a fine, very soft, grey (5Y 6/1) ash rich layer with increasing amounts of roof spall and large charcoal fragments. This layer has a thickness of between 1cm and 9cm and is restricted to the southern side of the pit. It dips sharply at the southeast corner suggesting that it had been dug into SU 6.

SU 6 is a finer textured reddish yellow (5YR 6/6-6/8) layer with less charcoal that SU 5. It varies in thickness from between 6cm and 13cm. Like SU 5 above, it also dips sharply at the southeast corner, suggesting that it has been dug into SU 8.

SU 7 is a thin, discontinuous, grey (5 YR 6/1), ashy layer that intrudes into SU 6.

SU 8 is a thick, dark grey (5 YR 4/1), ash rich layer with large amounts of charcoal as well as leaves and twigs. It has uneven upper and lower boundaries.

SU 4, 5 and 6 directly overly SU 8 which in turn lies on Stratigraphic Units 10 and 11 as well as bedrock. It varies in thickness from between 5cm and 25cm.

SU 9 is a small yellowish red (5YR 5/6) lens of coarse sediment within Unit 8.

SU 10 is a reddish brown (5YR 4/4) lens containing coarse sediments and charcoal. It lies both on bedrock and SU 11 and has a maximum thickness of 10cm.

SU 11 is a discontinuous unit lying on bedrock. It is absent in the southeast corner of the pit, suggesting that SU 8 has been excavated into SU 11. It is a fine, dark gray (5YR 4/1) sediment with charcoal, leaves and twigs throughout.

The profile reveals a complex depositional history. Stratigraphic Units 11, 8, 6, 5, 3, and 2 represent a series of occupation events indicated by large amounts of charcoal and roofall as well as disturbance of previous deposits. The occupation represented by these events alternates with discontinuous SUs 10, 9, 7, 4, which contain less charcoal and finer sediments. These may represent substantial breaks between episodes in the rockshelters' use or, alternatively, disturbance of the deposit. However, quantification of deposition rate to investigate rockshelter use is difficult on the basis of this small pit.

J12 SEDIMENT ANALYSIS

J12 was excavated in 13 Excavation Units and produced 110kg of sediment. Laboratory analysis

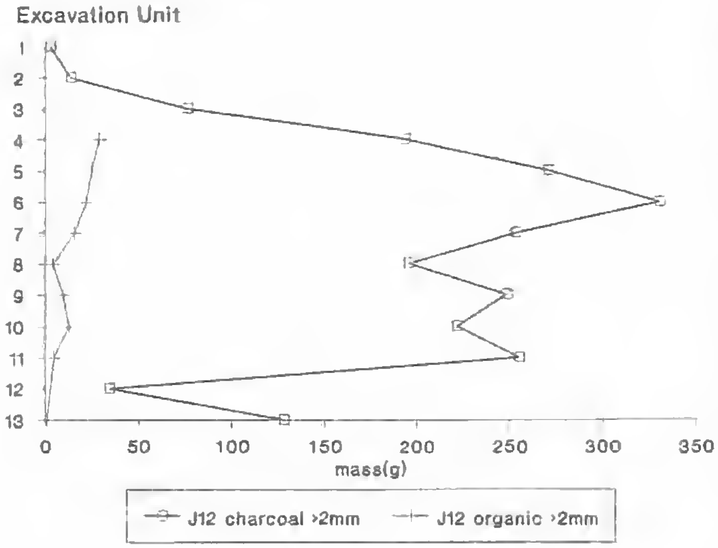


FIG. 14. Charcoal and organic remains from excavation J12, Kyeenee I rockshelter

of the excavated sediments indicated that although the profile is complex, the similarities between stratigraphic units as measured by particle-size analysis, percentage carbon, wet and dry Munsell colours and soil reaction, are greater than the differences.

Only three Excavation Units; 9, 10, and 11, contained stones >50mm in diameter. Throughout the deposit the proportions of the sieved fractions remained relatively constant. The percentage retained in the 4mm sieve for each excavation unit varied between 5% and 17%, in the 2mm sieve between 20% and 3%, while the < 2mm fraction varied between 61% and 90%. The greatest variation in percentages occurs near the base of the pit where weathered bedrock makes a greater contribution of coarse material, in XU 3 and at the surface where the proportions of finer sediments are greater (Fig.11).

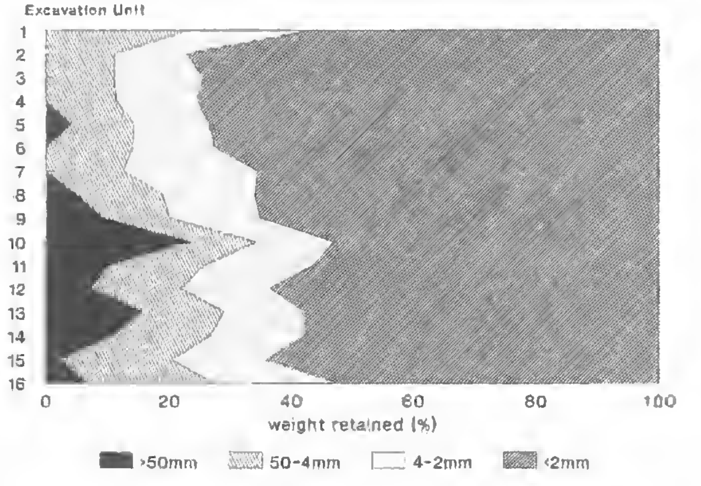


FIG. 15. Gross texture of XUs sieved in the field, excavation J9, Kyeenee 1 rockshelter.

A half-phi particle-size analysis of <2mm fraction from three selected Excavation Units (1, 7 and 13) was undertaken. It revealed similar particle-size characteristics for each of the Excavation Units (Fig.12). For each of the samples there are peaks at 2.5 (180μm) and 4.0 phi (63μm). This analysis indicates that the deposit has a particle size distribution similar to that obtained from sediments in Holocene sandplains of aeolian origin found to the south in the Currawinya National Park to the south (Robins, 1993). The similarities suggest that much of the sediment in this deposit may also be aeolian in origin, although further work is required to test this proposition.

Munsell soil colours are consistently brown to dark brown (7.5YR 3/2-4/2) (Table 2). Soil reaction is 6.4 in XU 1 and XU 7 but declines to 4.4 in XU 13. Loss on ignition indicates a high carbon content ranging from 18.5% in XU 1 to 12.0% in XU 13.

This deposit has a complex history that is the result of roof fall combining with aeolian deposits blown in from the surrounding plateau. To this has been added a significant human contribution in the form of ash and charcoal from fires and other cultural material. The relative contribution of these sources has varied throughout time.

TABLE 5. Frequency, size and mass of artefacts recovered from excavation J12, Kyeenee I rockshelter. Abbreviations: XU=Excavation Unit; ML=Mean length; MW = Mean width; MM = Mean mass.

XU	Artefact Type	No.	ML (mm)	MW (mm)	MT (mm)	MM (g)
J12/1	Flake	1	16.2	22.2	3.5	11.25
	Core	1	60.8	41.8	25.8	71.4
J12/3	Flake	1	32.1	23.1	10.3	3.5
J12/4	Flake	1	42.5	22.2	13.0	8.8
J12/5	Flake	2	8.0	7.8	1.2	0.6
J12/7	Flake	4	12.4	10.4	5.5	2.6
	Flaked piece	3				0.6
J12/8	Flake	4	12.1	14.4	5.0	1.2
	Flaked piece	2				0.6
J12/10	Flake	4	22.3	19.4	8.5	5.1
J12/11	Flake	1	8.85	8.8	1.6	.09
J12/13	Flake	3	28.6	16.5	8.6	5.7

FAUNAL REMAINS

A small amount, 17.7g, of bone was recovered from the deposit. The individual pieces were unburnt, small and fragmentary. Animals represented include bird, rodents, macropods, possum, and snake. Due to the type and condition of the bone, identification to species level was generally not possible. A list of remains is presented in Table 3. The presence of these bones in the rock shelter does not necessarily indicate human predation. Such remains could, and probably did, result from natural deaths or were the prey of other animals that used the shelter from time to time.

FLORAL REMAINS

One hundred and twenty two grams of organic remains were found throughout the excavation (Table 4). The majority of remains were *Acacia* spp. phyllodes or *Eucalypt* spp. leaves and fruit. As these species are common to the site today it is not possible to determine if they were introduced by the human occupants of the rockshelter or were blown in. None of the remains were charred or burnt.

CULTURAL REMAINS

Stone Artefacts. Twenty-seven stone artefacts (all silcrete) were recovered including 21 flakes, 5 flaked pieces and 1 core. A summary of artefact types is given in Table 5. This small number of artefacts restricts detailed analysis. Almost half the artefacts occurred in XU 7 and XU 8.

In general, the flakes tend to be as wide as they are long. The mean length to width ratio of flakes identified is 1:1.2 (Table 5).

The assemblage is generally small in size. For example, the maximum flake length is 42.5mm and the minimum 4mm. Despite the large amount of charcoal in the deposit there was little evidence of heat damage to artefacts. Only the core showed evidence of exposure to heat in the form of pot-lid scars on the cortex.

Wood Shavings. A total of twelve wood shavings were found in XU 4 to XU 7. Two types were identified. Ten shavings were from a dark wood and had a pronounced curl. Two were from a lighter wood and were shorter in length (Fig.13).

Charcoal. Charcoal was found in abundance throughout the deposit. A total of 2.2kg was recovered in the 2mm and 4mm sieves from all Excavation Units (Fig. 14). The charcoal was in large pieces, firm and in very good condition. XUs 5, 6, 7 and 11 each had over 250g. Only Excavation Units 1, 2, 3 and 12 had less than 100g (Fig. 14). Charcoal retained in the 4mm sieve from XU 13 provided a date of 1580±60 BP (Beta 11591) and from XU 5 a date of 890±50 BP (Beta 61794).

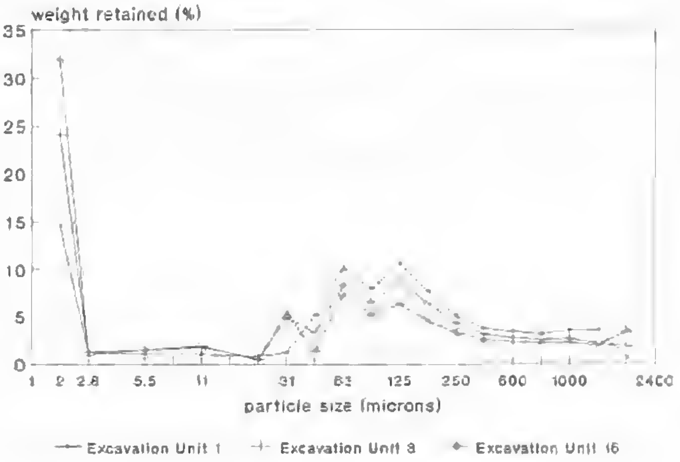


FIG. 16. Particle-size distribution in the <2mm field-sieved fractions from XU 1, 8 and 16, excavation J9, Kyeenee I rockshelter.

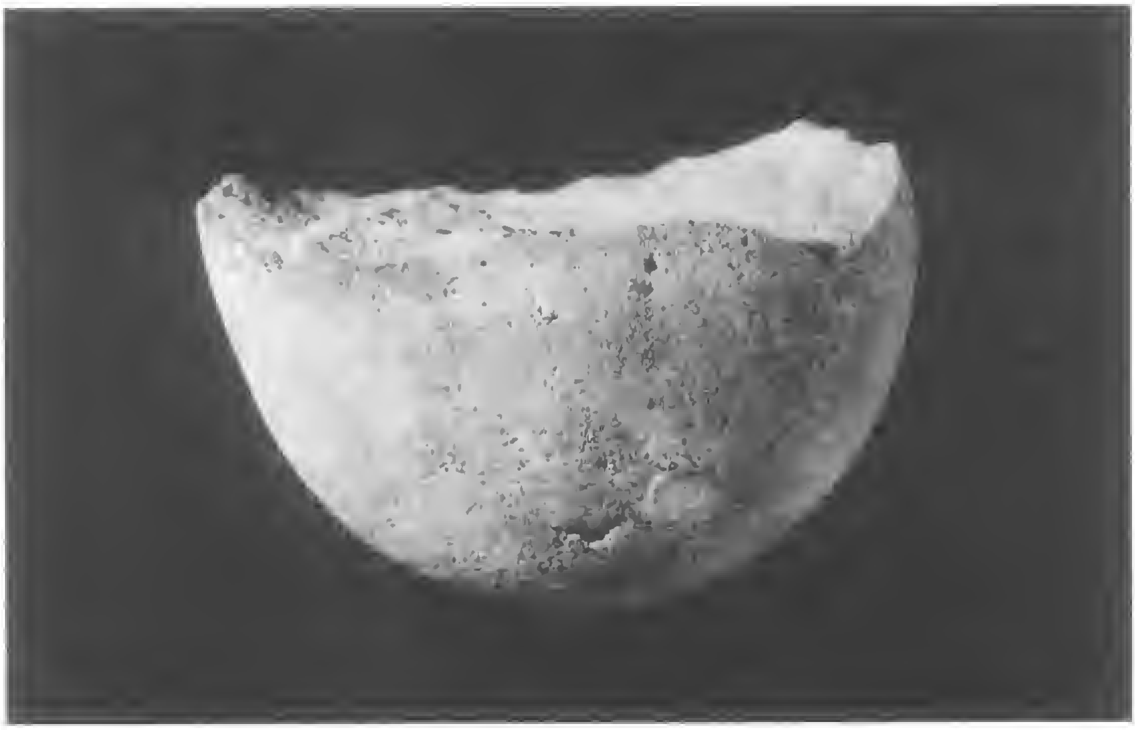


FIG. 17. Pebble core, XU 5, Excavation J9, Kyeenee I rockshelter.

J9 PROFILE DESCRIPTION

J9 contained 65cm of deposit. It was excavated in 16 XUs and produced 162kg of deposit. Four Stratigraphic Units were identified in the profile (Fig. 10).

Stratigraphic Unit 1 consists of a thin, fine, dry, grey to reddish grey layer (5YR 5/1-5/2) with loose gravel and humic material. Some forbs were growing on the surface and rootlets were evident throughout. It is 1-2cm thick.

SU 2 is a moister, more compact brown to dark brown layer (7.5YR 5/3-4/3) with an increase in finer sediment. The deposit is slightly drier and lighter with depth. This Stratigraphic Unit has a diffuse and irregular boundary that blends into SU 3. Its maximum thickness is approximately 25cm.

SU 3 is a dry, dark grey, (7.5 YR N4) unit that made up the bulk of the deposit. It lies on an uneven bedrock base and is coarser and less cohesive than SU 2. A number of large stones are present throughout. A small burrow is evident in the southwest corner. It has a maximum thickness of approximately 45cm.

SU 4 is a small lens that intrudes into SU 3 in the southeast corner. It is similar in colour and texture to SU 2 and may represent a burrow from SU 2 into SU 3.

J9 SEDIMENT ANALYSIS

The J9 deposit is more compact, and does not exhibit the complex stratigraphic detail of J12. (Fig. 12). However, while not evident in the profile, analysis of the deposit reflects a more subtle complexity of depositional history.

Increase in clays by weight with depth and the decrease in sands by weight with depth may be attributable to postdepositional weathering and erosion, particularly as J9 lies near the edge of an erosion gully. Deposits of J12 inside the shelter are not as compact and show a more consistent relationship in particle-size distribution with depth. Further work is needed to test this explanation.

Overall, sieving data indicate a similar pattern of deposition to that of J12 (Fig.15). However, the lower XUs have a higher percentage of coarse fractions in them compared to J12. The proportion of stones >5cm is up to 23.5% by weight in XU 10. J9 has four peaks in the coarse fractions, at XUs 1, 10, 13/14 and 16 (Fig.15). The finer fractions (<2mm), vary from between 75.3% and 52.3% by weight, with a general diminution in

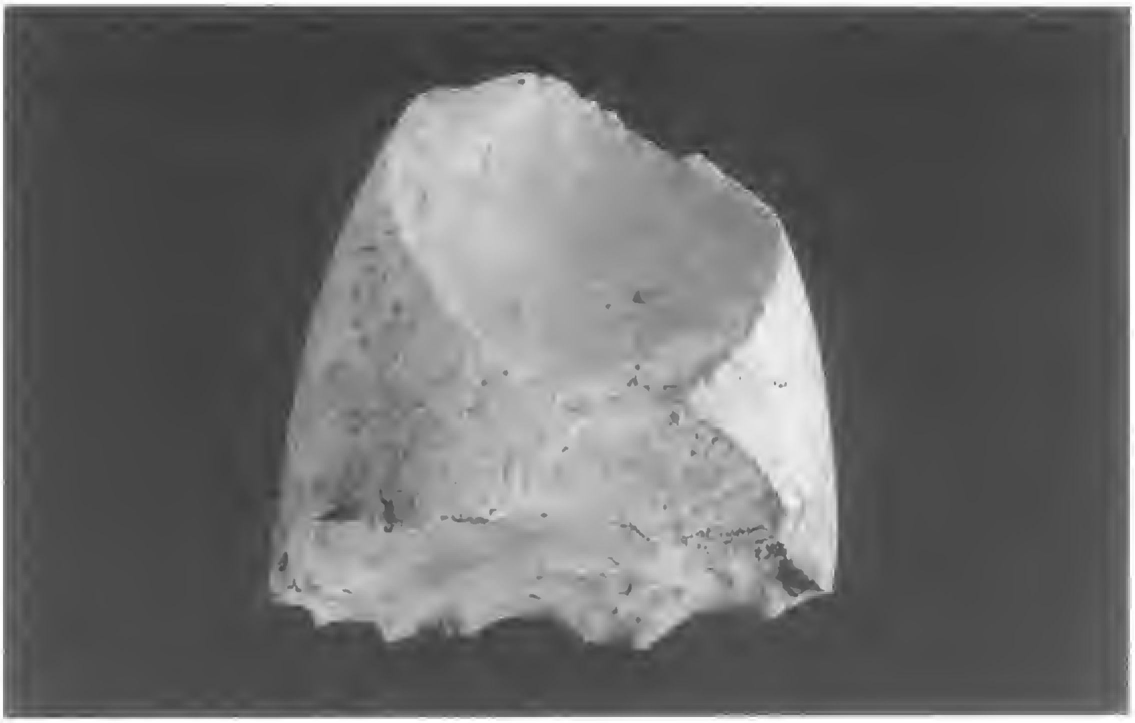


FIG. 18. Pebble core, XU 14, Excavation J9 Kyeenee I rockshelter.

representation in the lower XUs. There is a marked increase in the weight representation of the 50-4mm and 2-4mm fractions at the surface - the only place where their increased contribution is not accompanied by a similar increase in the >50mm fraction.

The particle-size analysis at half-phi intervals of samples from selected XUs (1, 8, and 16) reveals a particle-size distribution similar in pattern to that of J12, with two important exceptions. The first is the segregation and subduing with depth of the 125µm and 63µm sizes (Fig. 16). The second is the increase in the clay fraction with depth; from 15% at the surface to 31% at the base.

There is minor colour change with depth. The surface wet and dry colours are brown to dark brown changing to very dark brown and dark greyish brown at the basal unit (Table 6). Soil reaction (pH) varies from 5.15 to 3.49 (Table 6). The carbon varies from between 13.28% to 11.0% and does not show any obvious depth-related trend.

FLORAL REMAINS

Five unidentified seeds were recovered from J9. Three were from XU 8 and two from XU 10.

CULTURAL REMAINS

Stone artefacts. Eighty five silcrete stone artefacts were recovered including 60 flakes, 14 flaked pieces, 6 retouched flakes and 5 cores. The distribution of artefacts throughout the deposit is relatively even. No artefacts were found in XU 15 or XU 16 (Table 7). No evidence of heating was noticed on the artefacts although a pot-lid flake and pot-lid scars were noticed on non-cultural stones in XU 9.

As with J12, the flakes tended to be small and as long as wide. The longest flake was 83mm and the shortest 4.4mm. Mean width-to-length ratio for all flakes was 1:1.24. Retouched flakes tended to be larger than the flakes, with a mean length of 20.6mm, although the width to length ratio remained similar at 1:1.4. Only one core, with a maximum length of 132mm and a mass of 1,338g, can be considered large compared to the rest of the assemblage.

More artefacts were recovered from J9 (85) than J12 (27). This may be attributed to one or more of four factors. These explanations are not mutually exclusive:

1)There was greater discard of artefacts on the terrace than in the rockshelter (cultural factor).

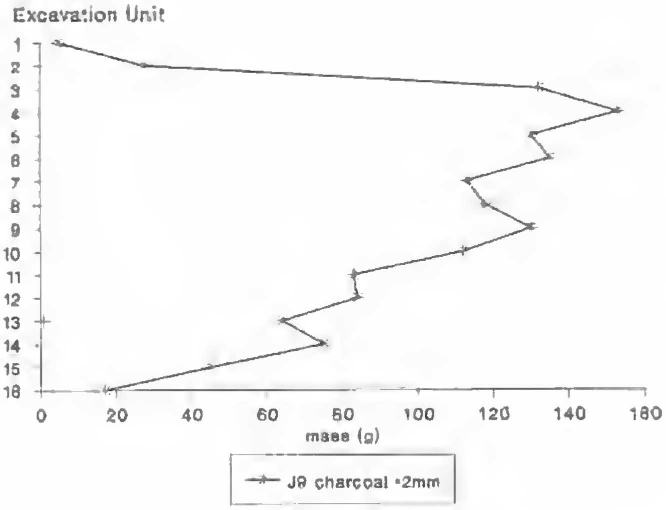


FIG. 19. Charcoal remains from excavation J9, Kyeenee I rockshelter

2) Artefacts discarded in the shelter were eroded downslope onto the terrace (taphonomic factor).

3) Artefacts on the surface above the rockshelter had been eroded downslope and onto the terrace outside the shelter (taphonomic factor); and

4) The sample of deposit is not representative with respect to artefact distribution (sampling factor).

A more extensive excavation and detailed examination of artefact distributions of the site would be needed to test these.

The two pebble cores are of some interest. They are the only artefact of their type observed during archaeological investigation's phase either in the vicinity the Currawinya Lakes or on Kyeenee (Robins, 1993). Both were recovered from this square J9; one from XU 5 and one from XU 14. The former is formed on an ovate, waterworn silcrete pebble. It has been substantially reduced from one end through a series of flakes removed along one margin (Fig. 17). A number of small flake scars with step terminations emanate from the platform. This flaking has formed a dentated, arcuate platform margin. The second pebble core has also been formed on a small, ovate, waterworn pebble and exhibits similar characteristics to the previously described specimen (Fig.18). This example has a straighter, although more dentated, platform margin. One large flake has been removed from the end opposite the flaked edge. The platform also has one large and several small flakes removed from it. These cores occur in an area with an abundance of raw material. The steeply dentated and step-flaked margin is reminiscent of the edges produced for adzing tools, such as tulas, and may imply that the cores were used as adzes (although it is to be noted that dentated and step-flaked margins can be produced as a result of flaking cores).

Charcoal. A total of 1.4kg of charcoal was recovered in the 2mm and 4mm sieves from all XUs (Fig.19). Although J9 only had just over half the amount of charcoal recovered from J12, a similar pattern of distribution emerged. In both cases there is little charcoal at the surface, an increase in the top one third of the deposit, followed by a diminution in representation to the respective bases of the excavation (cf. Figs. 14,19). Charcoal retained in the 4mm sieve from XU 15 provided a date of 1280±70yBP (Beta 11592), and from XU 8 a date of 660±60yBP (Beta 61793).

Faunal Remains. Two small fragments of unidentifiable burnt bone were recovered from XU 9 and XU 12.

OTHER ARCHAEOLOGICAL EVIDENCE

On the plateau surface above the site, the surface is bedrock which is devoid of vegetation but covered with silcrete gibber varying in size from 1-20cm in diameter. Nodules of silcrete embedded in the bedrock have been comprehensively flaked. There is also an extensive scatter of artefacts on this surface. A 10x10m quadrat was laid out on this surface, directly above the rockshelter where a shallow depression directs surface water over the lip of the shelter onto the terrace below. Two thousand and eighty two silcrete artefacts were recorded in this quadrat, including 1,807 flakes, 146 cores, 40 multi-platform cores and 89

TABLE 6.Carbon content, colour and soil reaction for selected Excavation Units in Excavation J9, Kyeenee 1 Rockshelter. Abbreviations: XU=Excavation Unit; SR=Soil Reaction; C. (Av.)=Carbon (Av.).

XU	% C. (Av.)	Munsell Colours		SR (pH)
		Wet	Dry	
J9/1	12.6	7.5 YR 3/2 dark brown	7.5 YR 4.2 brown to dark brown	5.2
J9/8	13.3	10 YR 3/1 very dark grey	10 YR 4/2 dark greyish brown	4.0
J9/16	11.1	10 YR 2/2	10 YR 4/2 dark greyish brown	4.6

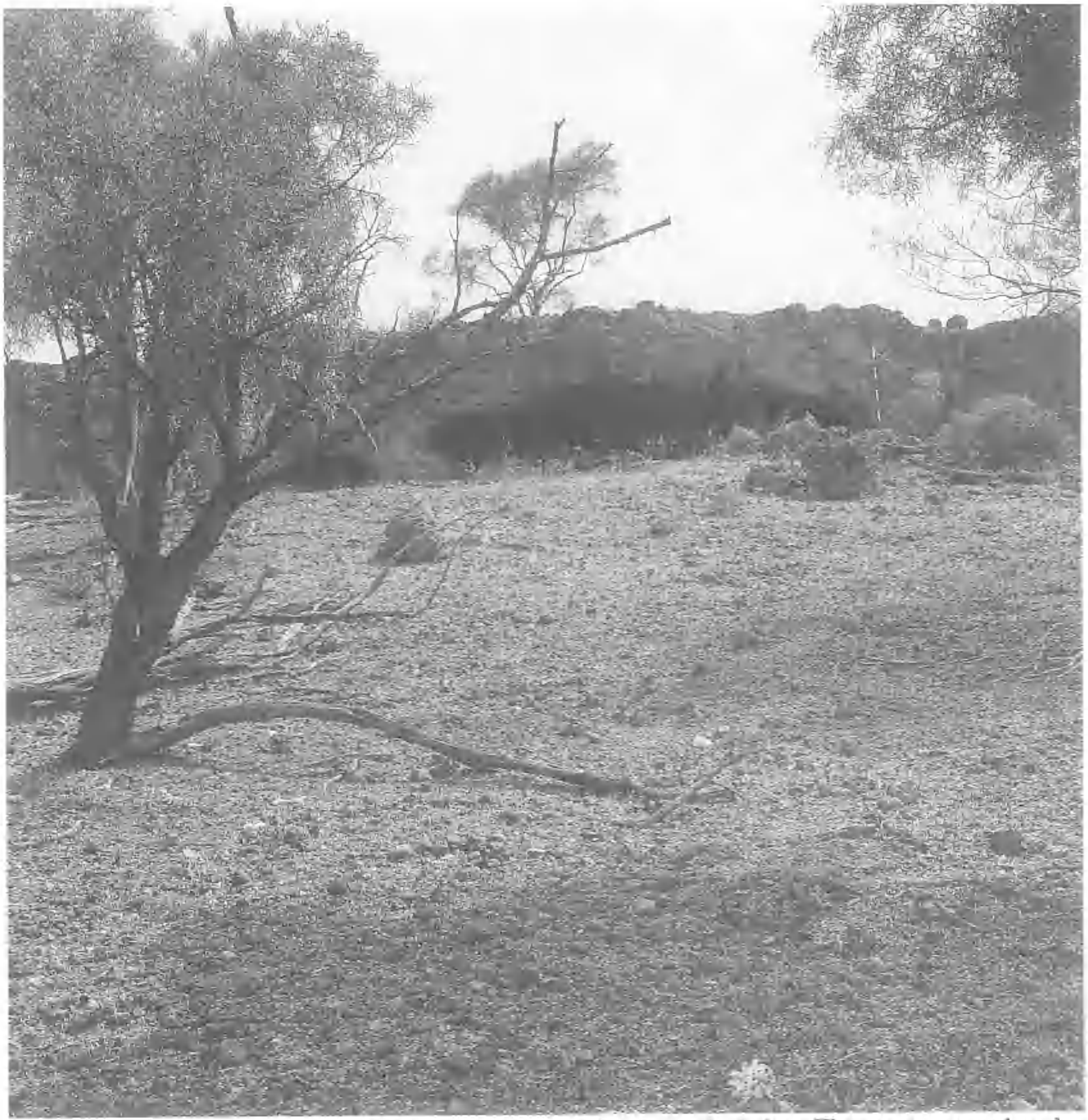


FIG. 20. Kyeenee II rockshelter

retouched flakes. Artefact densities within the quadrat varied from 10-30/m^2.

Ninety percent of the flakes are between 1-5cm in length, the remainder are between 6cm and 8cm in length. Maximum flake size is 8cm, minimum is 13mm. Seventy five percent of the cores are 60mm-75mm long, the remaining 25% are 30mm-50mm long. Maximum core length is 75mm, minimum is 30mm.

A small, indistinct stone arrangement is located on the gibber strewn surface plateau surface opposite the rock shelter. The arrangement has deteriorated to the point where the only identifiable feature remaining is a small mound with a cleared centre.

SUMMARY

Sedimentary deposits in the Kyeenee I rockshelter contain evidence pointing to late Holocene human occupation commencing at about 1500yBP. It does not necessarily imply the earliest human use of the rockshelter. The deposits formed through a combination of aeolian activity which bought sand and dust inside the rockshelter, there to combine with roofall and

TABLE 7: Frequency, size and mass of artefacts recovered from excavation J9, Kyeenee I Rockshelter. Abbreviations: XU=Excavation Unit; ML=Mean length; MW = Mean width; MM = Mean mass.

XU	Artefact Type	No.	ML (mm)	MW (mm)	MT (mm)	MM (g)
J9/1	Flake	2	29.6	15.8	8.9	11.5
J9/2	Flake	2	6.7	7.2	1.6	0.1
	Retouched flake	3	23.2	14.3	5.9	2.8
	Flaked piece	3				0.1
J9/3	Flake	3	17.9	18.0	4.8	2.2
	Retouched flake	2	51.5	36.1	15.8	21.8
	Flaked piece	1				20.1
J9/4	Flake	5	12.1	11.6	3.8	0.5
	Flaked piece	2				0.1
J9/5	Pebble core	1	23.2	14.5	9.9	4.3
J9/6	Flake	4	17.3	18.8	4.7	4.8
	Retouched flake	1	49.2	28.8	14.6	29.7
J9/7	Flake	5	12.5	12.6	4.4	1.3
	Core	1	73.5	50.0	42.9	145.1
	Flaked piece	2				0.2
J9/8	Flake	6	29.6	20.0	6.9	11.9
J9/9	Flake	4	9.7	7.2	1.6	.01
	Flaked piece	2				.01
J9/10	Flake	8	15.0	9.4	3.4	1.6
	Core	2	139.6	97.6	50.3	768.9
	Flaked piece	3				.01
J9/11	Flake	9	18.2	13.9	4.3	14.2
	Core	1	58.3	56.0	18.2	60.6
J9/12	Flake	4	27.2	22.3	7.4	24.7
J9/13	Flake	6	10.1	8.7	1.6	0.2
	Flaked piece	1				0.06
J9/14	Flake	1	15.3	11.2	4.5	.93
	Pebble Core	1	17.6	12.5	12.6	2.74

occupational material including stone and wooden artefacts and charcoal. The faunal and floral material found in the deposit has an equivocal history and may derive from human and/or non-human sources.

This shelter contains evidence of a range of human activities including stone and wooden artefact manufacture and maintenance, and burning. The large amounts of charcoal in the deposit indicate major episodes of burning. These episodes of burning appear to be unrelated to those of woodworking or stone artefact manufacture, maintenance or discard as the burning has not affected the other forms of evidence. The interpretation of episodic burning events is reinforced by the preservation of floral and faunal remains that also appear to be unaffected by the burning. The infrequent and episodic human occupation is indicated by the generally sparse nature of the evidence of occupation at the shelter. The argument for episodic use of this site by people is further strengthened by the faunal evidence. If the faunal remains are non-humanly derived it implies that visits by humans were sufficiently infrequent for other animals to have occupied the site in their absence.

The area immediately surrounding this site expands the evidence of usage. The presence of the stone arrangement opposite the shelter indicates that the area was probably used for ceremonial activities. On the plateau surrounding the site, the extensive and dense artefact scatter argues for the secular use of stone, and if density of artefacts can be related to intensity of use this area was used more frequently than the rockshelter. Artefact maintenance and manufacture represents a significant proportion of that use.

This site can be interpreted as one that has played host to people who have carried out a variety of tasks at the site during short-term, episodic visits.

KYEENEE II ROCKSHELTER

Kyeenee II rockshelter is located on the eastern side of a small outlier which is in a pocket of gently undulating mulga plains (Fig. 6). At approximately 2km from the rockshelter, Dissected Residuals encircle this plain on its eastern, northern and western sides. The ephemeral, dendritic drainage channels of Werie Ella Creek, a tributary of Benanga Creek, have formed approximately 1km the west.

The outlier, formed in Winton Formation bedrock, is approximately 250m long on its north-south axis and 74m wide at its widest point. Resistant bedrock has resulted in a small 3m high escarpment in which three rockshelters have formed (Fig. 20). The steep escarpment in which the rockshelter is located gives way to a gentle scree slope. This scree slope consists of boulders of weathered mudstone and siltstone, lithosols and shallow red earths supporting gidgee (*Acacia cambagei*) tall open mulga (*Acacia aneura*) shrubland (Dawson, 1974).

The rockshelter entrance is low (1.6m) and wide (6.4m) and 2m from the entrance opens out to 7.6m. Three metres from the entrance this chamber constricts to a small, 80cm wide hole

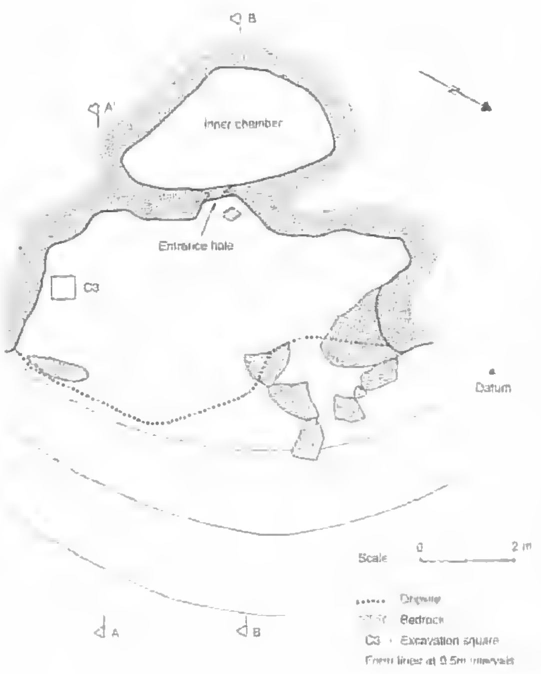


FIG. 21. Plan of Kyeenee II rockshelter

that provides access to an inner chamber that is 4m wide and 2m deep (Fig. 21). The roof of the cave is low throughout, with a maximum height of 1.6m near the dripline (Fig. 22). Swallows nest on the ceiling, bats roost in the inner chamber and kangaroos and wallabies use the outer chamber.

Although other rockshelters in the outlier contained deposits with charcoal and artefacts on the surface, they had been extensively disturbed by animals. KRS II had a similar amount of deposit, but appeared to be less disturbed. It was selected for excavation on this basis. The rockshelter floor consists of fine grey sediment mixed with roof fall. In parts of the floor, bedrock was exposed.

At the time of investigation, two flakes and some charcoal were observed on the rockshelter floor. A number of artefacts were also scattered down the scree slope. Although the topography of the rockshelter indicated that the floor deposits were unlikely to be thick, it was hoped that its excavation would provide some *in situ*, dateable evidence of occupation and add to knowledge of the character of deposits in the region.

EXCAVATION PROCEDURE

After positioning a datum point outside the shelter, an alpha-numeric 50 x 50cm horizontal grid was established for the floor using 90° offsets from the baseline. Heights were determined with autoset and water levels. One 50cm square, C3, was selected for excavation to obtain the maximum depth in the least disturbed deposit. It was then excavated following the procedures and pro-forma outlined by Johnson (1979). The excavated material was sieved through 2mm and 4mm wire mesh. All the material retained in the sieves was sorted on site. The >4mm material was sorted a second time on site and returned as backfill. The 2-4mm fraction was wet sieved. A grab sample (100g) of the material that had passed through both sieves was retained for further analysis. The excavated pit was lined with plastic and backfilled with rocks and excavated deposit.

Two 10m squares were laid out from the baseline to extend down the talus slope. All the artefacts occurring within these quadrats were recorded in a manner similar to that undertaken for the surface and other excavated sites.

DEPOSIT DESCRIPTION

C3 had a mean deposit depth of 11cm. Thirty seven kilograms of deposit was excavated in three XUs. The deposit consisted of fine grey sediment mixed with roof fall. The >2mm sieved fraction represented between 30% and 35% of the mass of the deposit throughout. Charcoal is pres-

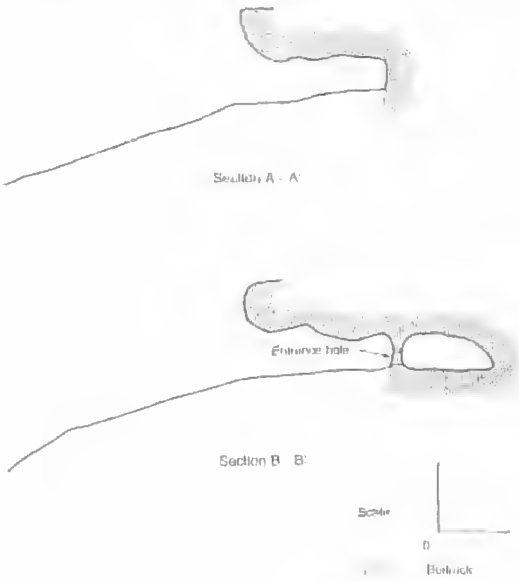


FIG. 22. Topographic profiles across Kyeenee II rockshelter

ent only in minor amounts but a trend of decreasing content towards the top was detected. The base of the deposit rested on uneven and weathered bedrock.

Detailed analysis of the deposit did not proceed because no artefacts or other cultural material were recovered.

ASSOCIATED ARCHAEOLOGICAL EVIDENCE

On the talus slope, the 10m square laid out from the baseline contained 38 silcrete artefacts. The artefact types recorded included 25 flakes, 9 retouched flakes, 2 single platform cores, 1 multiplatform core and 1 tula. The maximum artefact density was 3/m². All the flakes had lengths of between 20mm and 65mm. The cores ranged in size from 15mm to 75mm.

The adjoining quadrat contained 87 silcrete artefacts including 59 flakes, 7 retouched flakes, 13 cores and 8 multi-platform cores. All were made on silcrete. Flake lengths ranged from between 25mm and 90mm. Eighty percent of these were between 25mm and 50mm in length. The cores ranged in size from 30mm to 75mm.

SUMMARY

The sediments in and around this rockshelter contain limited evidence of human occupation.

The deposit is shallow and in parts disturbed. Numerous artefacts litter the scree slope in front of the shelter indicating the possibility that either the slope was the preferred area for human activities or that the deposit in the rock shelter has been purged, perhaps a number of times, and the contents of the shelter strewn over the slope.

DISCUSSION

Although only a small sample, the excavation of these three rockshelters provides some basic evidence about the nature of archaeological deposits in rockshelters in southwest Queensland.

In each case, the rockshelters had been well formed, ranging from 4m to over 12m in depth. All were formed in the sediments of the Winton Formation which were capped with tertiary silcrete bedrock or gibber. The depth of deposit in each case was relatively shallow, ranging from 6-80cm. The rockshelter directly associated with a source of temporary water had the deepest and culturally richest deposit. The deposits of the rockshelters that were a considerable distance from water sources (Murderers Bore 1 and Kyeenee Rockshelter 2) were shallower and had little cultural evidence associated with them, although the talus slopes in front of each were littered with stone artefacts, indicating some cultural use. The two deposits that were dated were late Holocene in age (450±70yBP and 1580±60yBP).

These investigations confirm the impression that the rockshelters of southwest Queensland are unlikely to contain deposits that are old, culturally rich or deep. Rockshelters that are considerable distances from sources of permanent or semi-permanent water will be less likely to contain deposits than those that are close to a water source. However, Kyeenee I rockshelter had excellent preservation conditions and a range of organic material had been preserved in it. While these rockshelters may not represent a good source for obtaining long chronological sequences, under the right circumstances they may well provide a useful source of information for late Holocene Aboriginal occupation of this landscape.

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GLOSSARY

Definitions for Stone Artefacts

Flake: A flake was defined as a piece of stone struck from a core and which exhibited characteristics which indicated that it had been struck. These included features associated with the point of force application (PFA) manifest principally in the presence of a ringcrack, a bulb of force on the ventral surface and other surface deformities including ripples, and an eraillure scar (Hiscock, 1986).

Core: A piece of stone with no positive flake scars but with one or more negative flake scars (Hiscock, 1986).

Retouched flake: A flake which has had other flakes removed from it leaving scars onto the ventral face and/or deriving from the ventral surface (Hiscock, 1984).

Flaked piece: A chipped artefact which is missing the defining attributes of a core, flake or retouched flake. Some weathered, fractured or heat shattered artefacts are identifiable only to this level. This category is only used when the artefact had definitely been chipped, but its identification was uncertain (Hiscock, 1984).

Single platform core: A core from which all flakes have been struck from the same surface (the platform).

Multi-platform core: A core which has been rotated in the course of flaking so that flakes are struck from two or more surfaces. Commonly, flakes will be struck from negative flake scars on the core.

Snapped Flake: A flake which has been fractured transversely. These usually are elongate flakes (before fracture). The fracture surface is approximately perpendicular to the natural surface and often has a S-shaped undulation.

Tula: A flake with a convex ventral face and a large angle between the ventral surface and the platform. It has steep retouching at the distal end that extends around to the margins. The platforms are generally large and the flake is thick ventrally/dorsally (Hiscock & Hughes, 1983:96).